

## CLAIMS

1. Connector (10) for a duct (1) for the pneumatic feeding of fibre to a carding machine (2),

5 the said connector extending along a longitudinal axis (Y-Y) and having an upstream portion (14), from where the said fibre arrives, and a side duct (18) having a through opening (20) for fibre feeding to the carding machine (2), and

10 also comprising means (22) for deflecting the stream of fibre, the said means being struck, in a condition of normal operation, by the said stream of fibre and being able to deflect the said stream of fibre from the upstream portion (14) of the connector (10) towards the side duct  
15 (18) of the latter,

which connector is characterized in that the said means (22) for deflecting the stream of fibre have a longitudinal length approximately equal to the longitudinal length of the footprint of the said through  
20 opening (20) of the side duct (18) of the connector, as projected onto a plane passing through the longitudinal axis (Y-Y) of the connector, so as to channel the said fibre in an essentially uniform manner towards the carding machine (2).

25 2. Connector (10) according to Claim 1, also

comprising a downstream portion (16) for feeding the fibre to a subsequent carding machine, the said deflection means (22) being able to deflect at least some of the said stream of fibre from the upstream portion (14) towards the side duct (18).

3. Connector (10) according to Claim 1, also comprising a closing wall (100), the said deflection means (22) being able to deflect the said stream of fibre from the upstream portion (14) towards the side duct (18) connected to an end-of-line carding machine.

4. Connector (10) according to any one of the preceding claims, in which the said deflection means (22) form an obstacle which at least partly intercepts the stream of transported fibre.

5. Connector (10) according to any one of the preceding claims, in which the said side duct (18) has a centre plane (M-M) perpendicular to the said longitudinal axis (Y-Y) of the connector (10).

6. Connector (10) according to Claim 5, in which the said means (22) for deflecting the stream of fibre extend symmetrically with respect to the said centre plane of the side duct (18) of the connector.

7. Connector according to any one of the preceding claims, in which the said connector (10) comprises walls (24) that form a box-like structure having an upper wall

(26) on the opposite side of the said longitudinal axis (Y-Y) of the connector from the said through opening (20) through which the fibre passes.

8. Connector (10) according to Claim 7, in which  
5 the said means (22) for deflecting the stream of fibre are connected to the said upper wall (26) of the connector (10).

9. Connector (10) according to Claim 8, in which  
10 the said deflection means (22) are able to channel the said fibre in an essentially uniform manner towards the carding machine (2).

10. Connector (10) according to any one of Claims 7 to 9, in which the said deflection means (22) are integral with the said upper wall (26) of the connector (10).

15 11. Connector (10) according to any one of Claims 7 to 9, in which the said deflection means (22) are removable from the said upper wall (26) of the connector (10).

12. Connector (10) according to any one of the  
20 preceding claims, in which the said deflection means (22) comprise a step (28) projecting from an upper wall (26) of the said connector towards the through opening (20) of the side duct (18).

13. Connector (10) according to Claim 12, in which  
25 the said step (28) comprises at least one lead-in wall to

join the upper wall (26) to the said step (28).

14. Connector (10) according to any one of the preceding claims, in which the said side duct (18) comprises walls (40).

5 15. Connector (10) according to Claim 14, in which the said side duct (18) is joined to the said upstream portion (14) by a first bevel wall (41).

16. Connector (10) according to Claim 14 or 15, in which the said side duct (18) is joined to the said  
10 downstream portion (16) by a second bevel (42).

17. Duct (1) for the pneumatic feeding of fibre to a carding machine, comprising a connector (10) according to any one of the preceding claims.

18. Duct (1) according to Claim 17, in which the  
15 said duct is connected to fan means (6).

19. Duct (1) according to Claim 18, in which the said fan means (6) comprise a fan (8).

20. Connector (10) for a duct (1) for the pneumatic feeding of fibre to at least one carding machine (2),

20 the said connector extending along a longitudinal axis (Y-Y) and having, between an upstream portion (14) from where the said fibre arrives and a downstream portion (16) for transporting the fibre to a subsequent carding machine, a side duct (18) having a through opening (20)  
25 for fibre feeding to the carding machine (2) and a centre

plane (M-M) perpendicular to the said longitudinal axis (Y-Y), and

also comprising means (22) for deflecting the stream of fibre, the said means being struck, in a condition of normal operation, by the said stream of fibre and being able to deflect at least some of the said stream of fibre from the upstream portion (14) of the connector (10) towards the side duct (18) of the latter,

which connector is characterized in that the said means (22) for deflecting the stream of fibre extend symmetrically with respect to the said centre plane (M-M) of the side duct (18) of the connector (10), in such a way as to channel the said fibre in an essentially uniform manner towards the carding machine (2).

21. Connector (10) for a duct (1) for the pneumatic feeding of fibre to at least one carding machine (2),

the said connector (10) extending along a longitudinal axis (Y-Y) and having, between an upstream portion (14) from where the said fibre arrives and a downstream portion (16) for transporting the fibre to a subsequent carding machine, a side duct (18) having a through opening (20) for fibre feeding to the carding machine (2), and

in which the said connector (10) comprises walls (24) that form a box-like structure having an upper wall

(26) on the opposite side of the said longitudinal axis (Y-Y) of the connector (10) from the said through opening (20) of the fibre,

the said connector (10) also comprising means (22) for deflecting the stream of fibre, the said means being struck, in a condition of normal operation, by the said stream of fibre and being able to deflect at least some of the said stream of fibre from the upstream portion (14) of the connector towards the side duct (18) of the latter,

which connector is characterized in that the said means for deflecting the stream of fibre are connected to the said upper wall (26) of the connector (10) in such a way as to channel the said fibre in an essentially uniform manner towards the carding machine (2).

22. Connector (10) according to Claim 21, in which the said deflection means (22) have a stepped configuration.

23. Connector (10) according to Claim 22, in which the said step is integral with the said upper wall (26) of the connector (10).

24. Connector (10) for a duct (1) for the pneumatic feeding of fibre to an end-of-line carding machine (2),

the said connector extending along a longitudinal axis (Y-Y) and having an upstream portion (14), from where the said fibre arrives, and a side duct (18) having a

through opening (20) for fibre feeding to the carding machine (2), and

also comprising means (22) for deflecting the stream of fibre, the said means being struck, in a condition of normal operation, by the said stream of fibre and being able to deflect the said stream of fibre from the upstream portion (14) of the connector (10) towards the side duct (18) of the latter,

which connector is characterized in that the said means (22) for deflecting the stream of fibre have a longitudinal length approximately equal to the longitudinal length of the footprint of the said through opening (20) of the side duct (18) of the connector, as projected onto a plane passing through the longitudinal axis (Y-Y) of the connector, so as to channel the said fibre in an essentially uniform manner towards the carding machine (2).

25. Connector according to Claim 24, in which the said side duct (18) has a centre plane (M-M) perpendicular to the said longitudinal axis (Y-Y) of the connector (10).

26. Connector (10) according to Claim 25, in which the said means (22) for deflecting the stream of fibre extend symmetrically with respect to the said centre plane of the side duct (18) of the connector.

27. Connector according to any one of Claims 24 to

26, in which the said connector (10) comprises walls (24) that form a box-like structure having an upper wall (26) on the opposite side of the said longitudinal axis (Y-Y) of the connector from the said through opening (20) through which the fibre passes.

28. Connector (10) according to Claim 27, in which the said means (22) for deflecting the stream of fibre are connected to the said upper wall (26) of the connector (10).

29. Connector (10) according to Claim 28, in which the said deflection means (22) are able to channel the said fibre in an essentially uniform manner towards the carding machine (2).

30. Connector (10) according to any one of Claims 27 to 29, in which the said deflection means (22) are integral with the said upper wall (26) of the connector (10).

31. Connector (10) according to any one of Claims 27 to 29, in which the said deflection means (22) are removable from the said upper wall (26) of the connector (10).

32. Connector (10) according to any one of Claims 24 to 31, in which the said deflection means (22) comprise a step (28) projecting from an upper wall (26) of the said connector towards the through opening (20) of the



side duct (18).

33. Connector (10) according to Claim 32, in which the said step (28) comprises at least one lead-in wall to join the upper wall (26) to the said step (28).

5 34. Connector (10) according to any one of Claims 24 to 33, in which the said side duct (18) comprises walls (40).

35. Connector (10) according to Claim 34, in which the said side duct (18) is joined to the said upstream  
10 portion (14) by a first bevel wall (41).

36. Connector (10) according to any one of Claims 24 to 35, also comprising a closing wall (100) which closes the feeding duct and channels the fibre towards the said carding machine.

15 37. Connector (10) according to Claim 36, in which the said closing wall (100) is perpendicular to the longitudinal axis (Y-Y) of the duct.

38. Connector (10) according to Claim 36, in which the said closing wall (100) is inclined with respect to  
20 the longitudinal axis (Y-Y) of the duct.

39. Connector (10) according to any one of Claims 36 to 38, also comprising a second bevel wall (42) joining the said closing wall (100) to the said side duct (18).

25 40. Duct (1) for the pneumatic feeding of fibre to

a carding machine, comprising a connector (10) according to any one of Claims 24 to 39.